

DOCKET NO.: MSFT-1167  
Application No.: 09/265,493  
Office Action Dated: July 18, 2001

PATENT

**Amendments to the Specification:**

Please replace the paragraph beginning on page 1 line 7 with the following rewritten paragraph:

—This application is related to U.S. Patent Application No. 09/265,507 (Attorney Docket No. 15-4-696.00) filed ~~on the same day herewith~~ March 9, 1999 and entitled "Method and Device for Generating Per-Pixel Light Values," by inventor David C. Tannenbaum et al., the disclosure of which is incorporated herein by reference. This application is also related to U.S. Patent Application No. 09/265,487 (Attorney Docket No. 15-4-805.00) filed ~~on the same day herewith~~ March 9, 1999 and entitled "Method and Device for Associating a Pixel with One of a Plurality of Regions in a Logarithm or Cosine Space," by inventor David C. Tannenbaum, the disclosure of which is incorporated herein by reference. Both of these related applications are assigned to the assignee of the present application.—

Please replace the paragraph beginning on page 2 line 7 with the following rewritten paragraph:

--Rendering of realistic 3D graphics requires accurate and efficient modeling of 3D surfaces based upon the position, orientation, and characteristics of the surfaces and the light sources illuminating them. In particular, the interaction between lights and surfaces must be modeled for rendering. To accurately model lighting effects, conventional computer graphics systems have typically implemented a variety of lighting models and shading techniques to generate light values at individual pixels of a graphics primitive such as a polygon. A co-pending U.S. Patent Application No. 09/265,507, entitled "Method and Device for Generating Per-Pixel

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"Light Values," by inventor David C. Tannenbaum et al., describes several exemplary lighting models and shading techniques.

Please replace the paragraph beginning on page 18 line 17 with the following rewritten paragraph:

--The vector dot product term evaluator 504 is coupled to the barycentric evaluator 502 to receive the per-pixel parameters. In addition, the vector dot product term evaluator 504 receives a spotlight source direction vector  $S$  and texture values of the selected parameters for computing one or more dot product terms such as the diffuse dot product term ( $N \cdot L$ ), the specular dot product power term ( $N \cdot H$ )<sup>s</sup>, and the spotlight dot product power term ( $S \cdot L$ )<sup>sp</sup>. When a parameter to be used in the vector dot product term evaluator 504 is a selected parameter, the vector dot product term evaluator 504 receives the texture value of the selected parameter from the texture unit 312. For example, when the normal vector  $N$  and the specular exponent  $s$  are selected to be replaced by texture parameters, the texture values corresponding to the normal vector and the specular exponent are received from the texture unit 312. Then, the received texture parameters are used in lieu of conventional  $N$  and  $s$  values in computing the specular dot product term. Dot product term evaluators are described in more detail in the co-pending U.S. Patent Application No. 09/265,507 entitled "Method and Device for Generating Per-Pixel Light Values," by Tannenbaum et al.